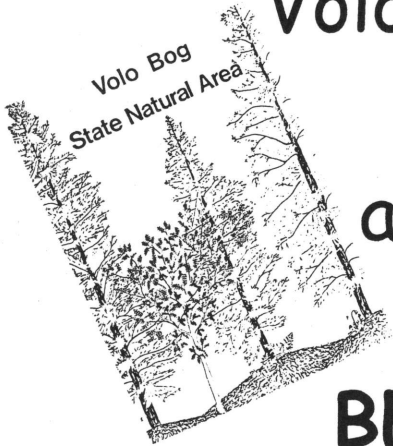


DEAR EDUCATOR!

Please **MAKE COPIES** of this
Volo Bog State Natural Area
ACTIVITY GUIDE

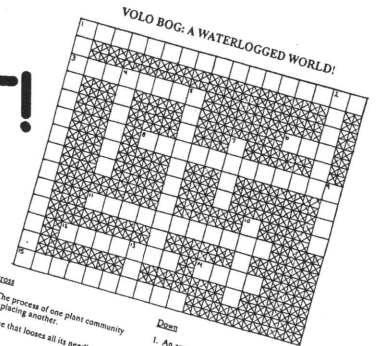
and have your students
complete it
BEFORE THEIR VISIT!



We believe

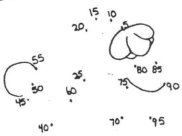
it will greatly enhance their
learning experience!

If you have any questions, please
call us at 815-344-1294



- Across**
1. The process of one plant community replacing another.
 2. Pine that loses all its needles each fall.
 3. Pine that loses all its needles each fall.
- Down**
1. An area protected by law.
 2. _____ is needed by most living things including bacteria.
 3. The bog plants make the water _____.
 4. When the ice block melted it made a giant hole called a _____.
 5. A soil formed by dead plants is _____.
 6. Rock, sand and gravel is called _____.
 7. This zone is closest to the edge of the old glacial lake.
 8. The glacier was made of _____.

discover the hungry Pitcher Plant!



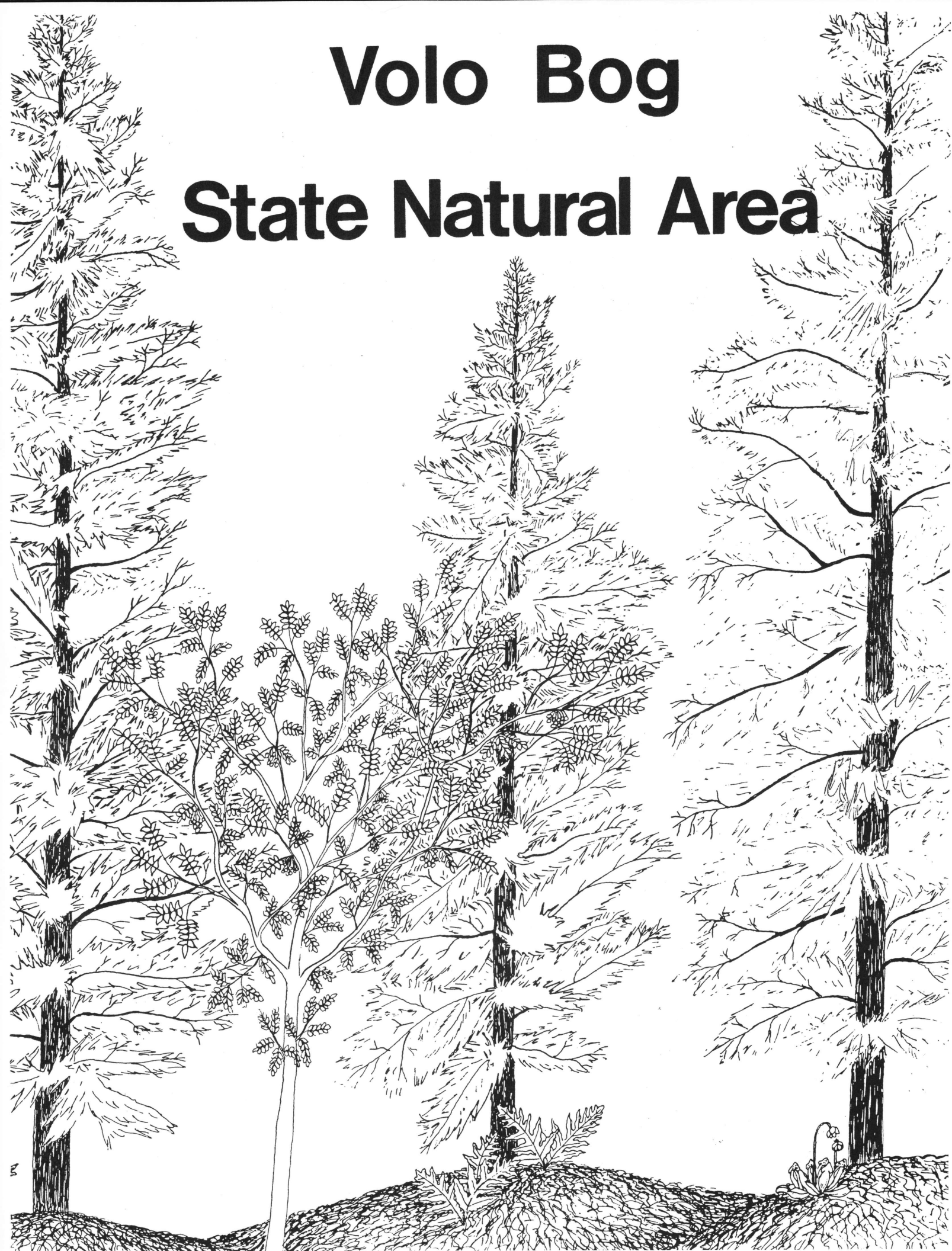
Zone number one is the Herb Mat.

Thanks,

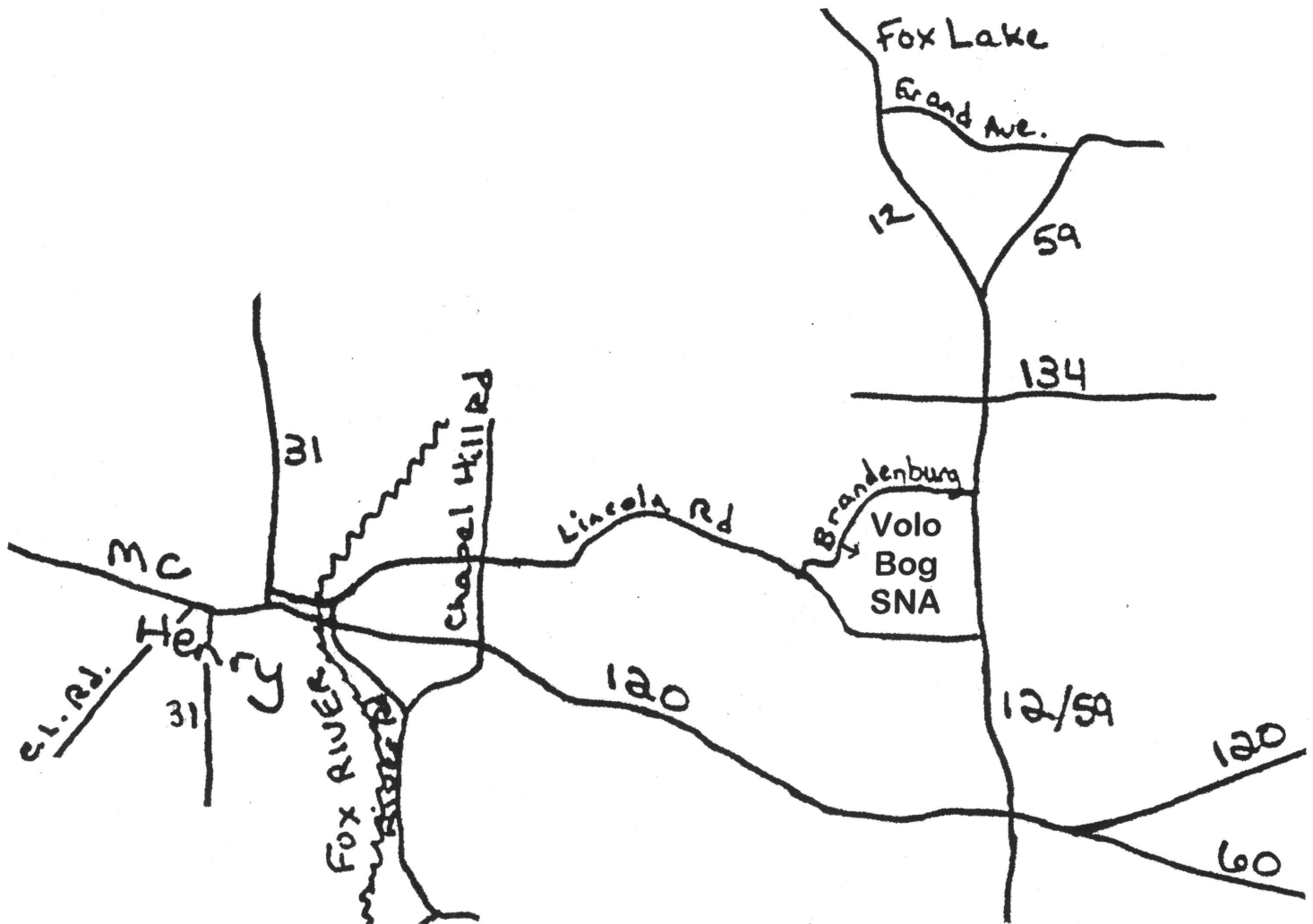
Stacy Iwanicki & the Volo Bog Volunteers!

Volo Bog

State Natural Area



Volo Bog State Natural Area
28478 W. Brandenburg Road
Ingleside, Illinois 60041
815-344-1294



Also, visit us at:

www.FriendsofVoloBog.org

and

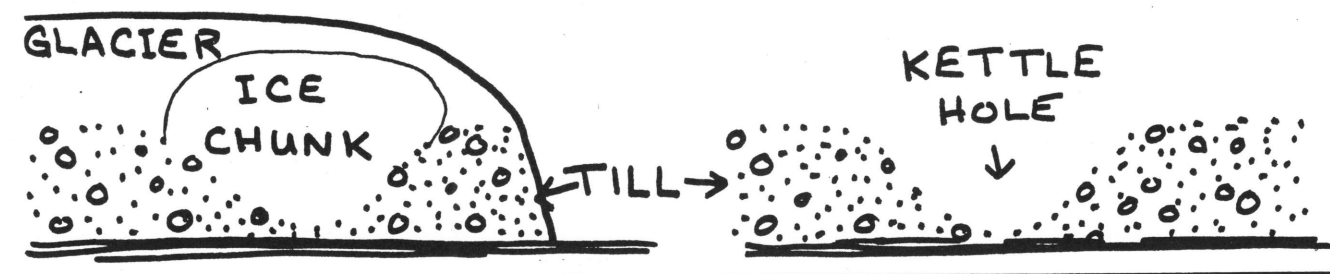
<http://dnr.state.il.us/lands/Landmgt/PARKS/R2/VOLOBOG.HTM>

**Please feel free to COPY and
DISTRIBUTE this activity guide - enjoy!**

THE BIRTH OF VOLO BOG

Over 12,000 years ago, long after dinosaurs disappeared and mastodons still roamed the lands to the south, our part of Illinois was covered by a huge sheet of ice called a glacier. The ice was so deep and heavy that it flowed over the land. As it flowed, it scraped the land and gathered rocks, sand and gravel in

its mass. The rock, sand and gravel together is called till. Eventually, the climate warmed and the glacier melted. Huge blocks of ice broke off the glacier and became stuck in the till. When these ice blocks finally melted they made giant holes in the landscape that geologists call kettle holes.

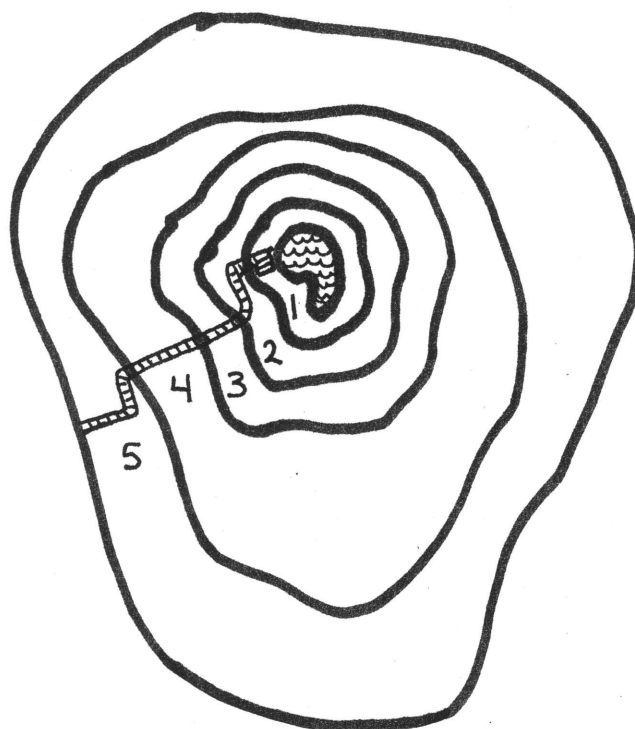


Many lakes formed in these kettle holes. Some of the old lakes had steep sides and poor drainage. No streams flowed in our

out. Their water became stagnant (still) and didn't hold much oxygen. Volo Bog was once a lake like this.

A floating mat of plants began to grow around the edges of the old kettle hole lake. Each year the mat grew closer to the center. When the plants died, they just floated on top of the water and more plants grew out of them. Some sank to the bottom. These dead plants slowly filled the old kettle hole lake both from the top down and from the bottom up. The dead plants formed special soil called peat.

Volo Bog's plants grow in five different rings around a center pond of water. Some of these plant zones are floating and there is usually a lot of water. A floating boardwalk will take you through the zones to the pond at the center.



IN THE MARSH

The zone closest to the edge of the old glacial lake is the marsh zone. This is where the boardwalk begins.

Here are some plants and animals you may see in the marsh. Draw a line from the name to the picture.



Cattails

Muskrat

Redwinged blackbird

Arrowhead

Duckweed

Leopard Frog

Snail

Dragonfly

Bullfrog

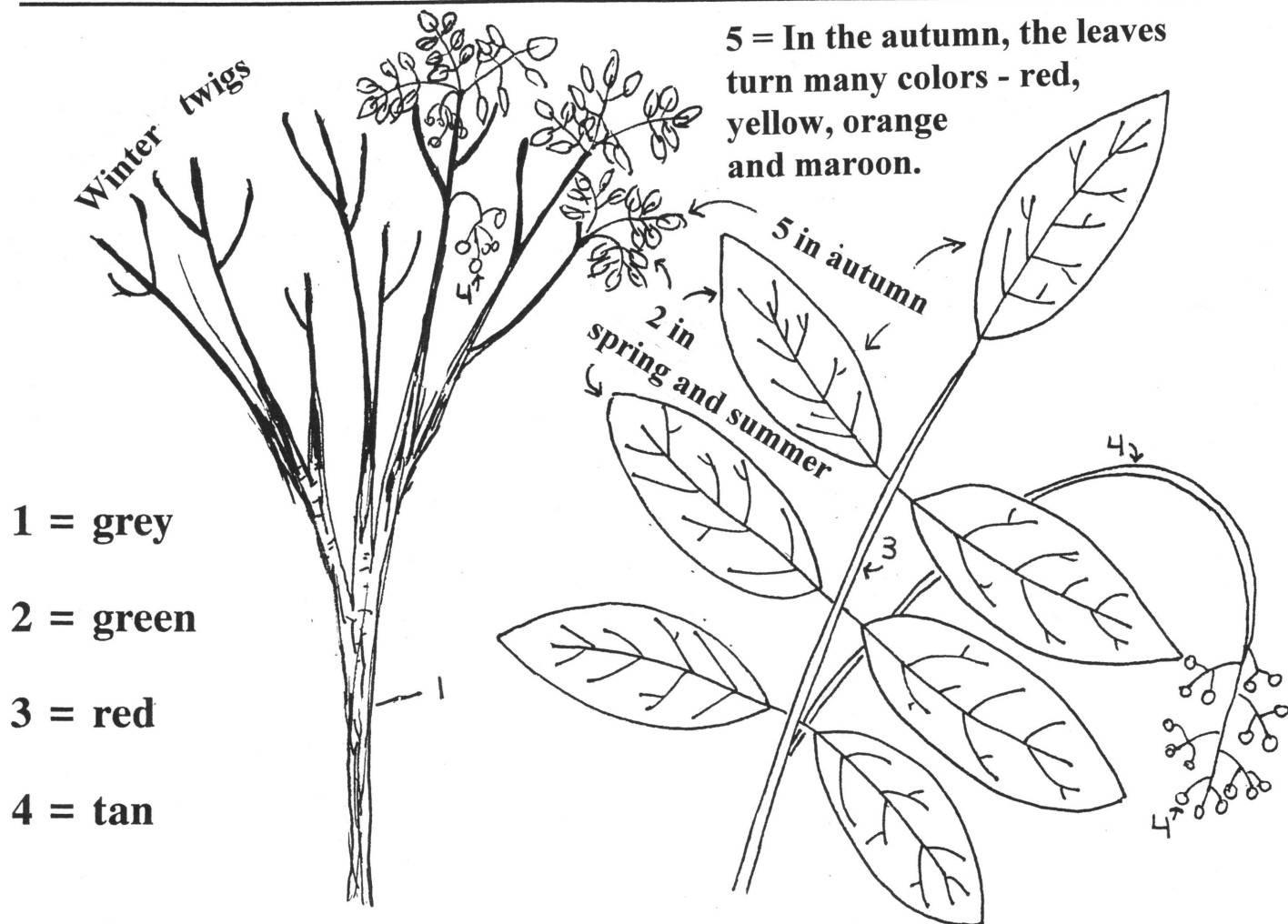
Color each of these living things of the marsh. Look in some books to see what colors to use.

Zone number five is the Marsh Zone.

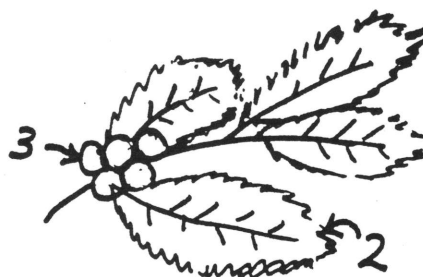
THE TALL SHRUB ZONE

As you walk along the boardwalk toward the center of Volo Bog, you will notice a sudden change in the types of plants around you. They will be much taller and will have woody bark. Be careful

when you get here because one of these shrubs is poisonous! It will make you itch worse than poison ivy. It is called poison sumac. Color here using the numbers to tell you what colors to use.



There are other shrubs that grow in this zone. One is winterberry holly. You may see red berries on it in the fall and winter.



Zone number four is the Tall Shrub Zone.

TAMARACKS ? ! ? !

A tamarack tree is a pine tree but it does a very strange thing. Each fall all of its needles turn golden and fall off. Most other pine trees are evergreen; they keep their needles all winter and only shed a few at a time. But not the tamarack. It seems to be a bit confused!



The tamaracks grow on the floating mat of Volo Bog where it is thick enough to support their weight. In the tamarack zone

you will also find poison sumac, ferns, sphagnum moss and many other neat things.

How many words can you make out of the letters in **TAMARACK TREES?**

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

You can tell how old a tree is by counting the rings in a cross section of its trunk. How old is this tree? (one ring = one year)



_____ years

Zone number three is the Tamarack Zone.

LOW SHRUB ZONE

Natural Succession is the process where one plant community replaces another. In the low shrub zone you will see baby poison sumacs, young tamarack trees and small shrubs growing with ferns, bog buckbean and sphagnum moss on the thinning floating mat.

In summer, you may find some orchids. These tiny flowers are so rare that they are endangered species in our state. Endangered species may become extinct if they are not protected. Many threatened and endangered species find a safe place to live in Volo Bog.

Color these cool bog plants!

1 = dark pink

4 = green

2 = light pink

5 = maroon

3 = yellow

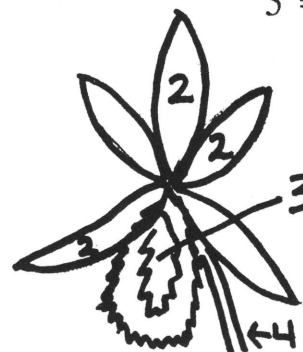
6 = white



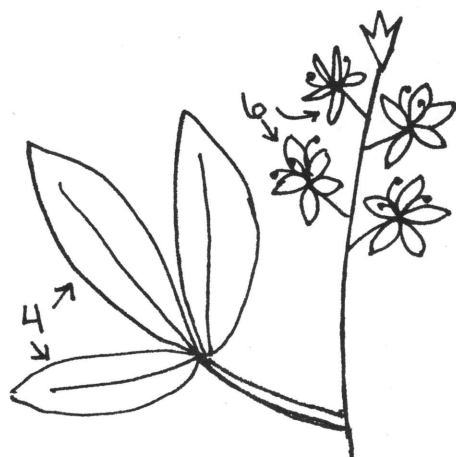
**Sensitive
Fern**



**Sphagnum
Moss**



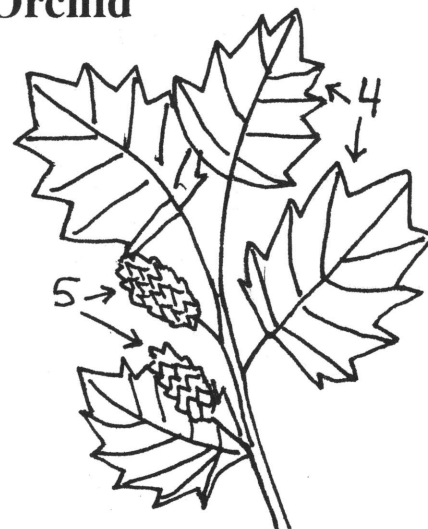
**Rose Pogonia
Orchid**



Bog Buckbean



Leatherleaf



Bog Birch

Zone number two is the Low Shrub Zone.

THE HERB MAT

The floating herb mat is the zone closest to the center pond of Volo Bog. The mat is so thin that it cannot support heavy plants like tamarack trees and poison sumac. By the time you get here, you'll recognize many of the plants you see. Your leader will show you just how floating the mat really is. Just a few inches of roots are floating on top of 50 feet of water and mucky peat! Can you guess what might happen to a curious explorer who tries to walk out on the mat?

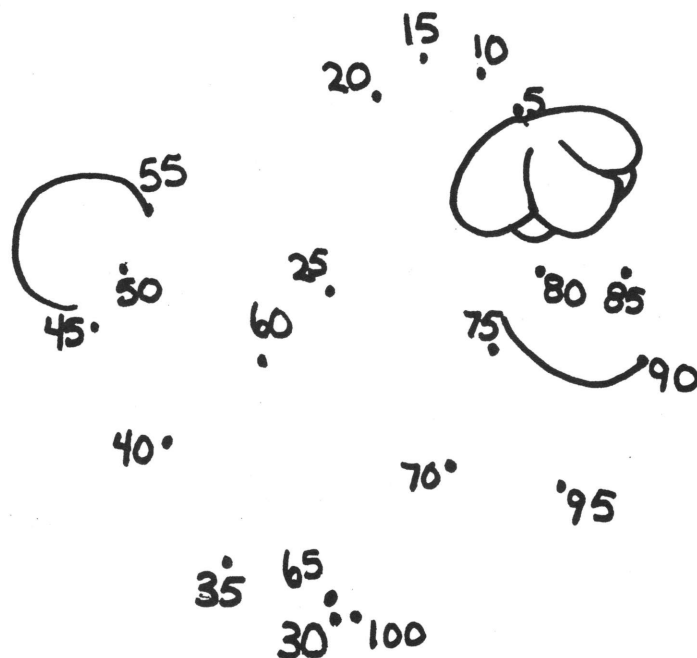
If someone did fall through the mat and drown, their body would not decompose. This is because of the stagnant bog water. Stagnant water doesn't hold much oxygen. Bacteria, a decomposer, needs oxygen to

live. Also, the sphagnum moss, tamarack trees and other plants make the water acidic. The acids kill bacteria too. Without bacteria, things do not decompose. Scientists have found over 800 human bodies preserved in the peat soils of European bogs. Their skin has been preserved like leather!

Visitors to Volo Bog stay on the board walk to play it safe! This also helps to protect the rare plants from being stepped upon.

One of the most interesting plants that grows on the herb mat and in the low shrub zone, too, is a carnivore. It *eats* small animals like insects and spiders! Connect the dots, counting by fives, to...

discover the hungry Pitcher Plant!



Zone number one is the Herb Mat.

THE OPEN WATER

In the very center of Volo Bog you will see an open pond of water. This pond is all that is left of the old glacial lake. As time goes by, this open water will fill in as well. Remember natural succession? For now, Volo Bog is the only bog in Illinois to still have open water in the center. It is

also the furthest south bog in all of North America to still have the pond. Volo Bog is a National Natural Landmark!

Some of the plants and animals that you may find in and near Volo Bog's pond are scrambled up below. See if you can unscramble them!

NDATIPE TELURT _____

EWDUEKCD _____

AWERT YILL _____

LUBLGFOR _____

FRDYGALON _____

ADTEPOL _____

MROLLADA CDKU _____

AWERT RSTIRED _____

KMUSTAR _____

KMIN _____

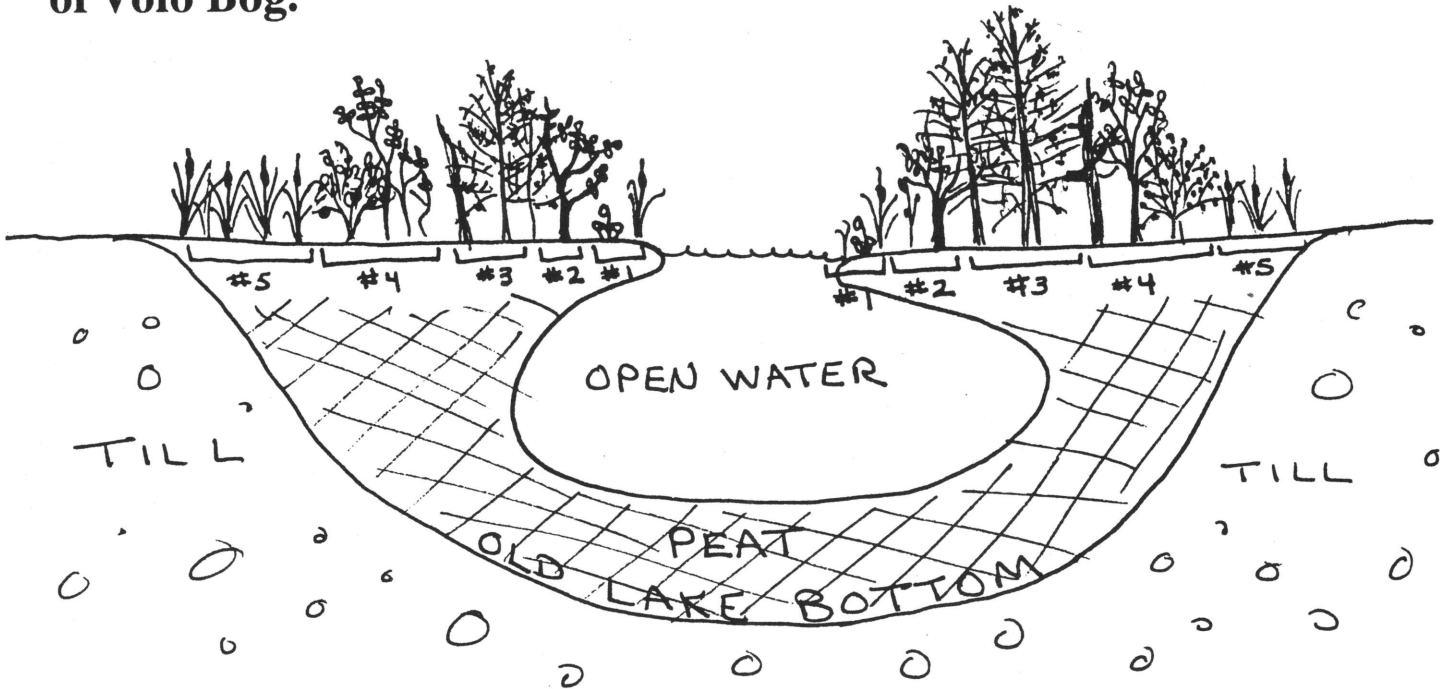
Ask your leader to tell you about the boogey man before you leave the center of Volo Bog!

THE WHOLE PICTURE

When the scientists numbered the zones of Volo Bog, they started from the center. Zone number one is next to the pond. It is the thinnest part of the mat. The mat gets thicker away from the pond

and the plant communities change. The zone numbers get higher with each different zone passing out of the bog to the edge of the old glacial lake. Zone number five is the outer most zone.

See if you can now name all of the plant zones in this cross section of Volo Bog.



ZONE ONE: _____

ZONE TWO: _____

ZONE THREE: _____

ZONE FOUR: _____

ZONE FIVE: _____

VOLO BOG IS A VERY SPECIAL PLACE!

Volo Bog is Illinois' only remaining open-water quaking bog. It was designated a *State Nature Preserve* in 1970. Volo Bog is also the southernmost open-water quaking bog in all of North America! As such, it was designated a *National Natural Landmark* by the U.S. Department of the Interior's National Park Service - so, we rate up there with Yellowstone and the Grand Canyon!

Volo Bog is home to 25 state threatened and endangered species. All native species you find within Volo Bog are protected by law. This means no one may harm the animals or pick the plants. Even the leaves, logs and water are protected! All these things are a part of nature and serve an important purpose.

Volo Bog is a place where you can enjoy nature without disturbing it. It is a place to watch a muskrat build his lodge out of cattails. Then, sneak along quietly and spot a four-foot-tall sandhill crane sitting on eggs she's laid atop the muskrat's lodge! Then, listen for the call of

red-winged blackbirds telling their neighbors where their territories are. You can catch insects and hold them gently in your hands or scoop water into a dippy cup to observe tiny aquatic critters. You can watch the tamarack trees turn golden in October, then search for animal tracks in the snow.

You can bring your mom, dad, grandma, grandpa, aunties, uncles and friends to Volo Bog State Natural Area for events like WinterFest, Nature Concerts, International Bog Day, and Ghost Stories. You can bring them for a tour led by a volunteer naturalist on a Saturday or Sunday or, better yet - you can lead them on a private tour to show them how the soil floats, how the tamarack needles feel, and where to look for tadpoles and watch for muskrats.

Volo Bog is a Nature Preserve. Everything is protected so it will be here for a long, long time. You may even bring your grandchildren to Volo Bog someday. We'll keep it safe so it will be here!

A NATURE PRESERVE ETHIC

Walk quietly so as not to disturb others - humans or other animals.

Pick no flowers - so that they may form seeds and so that other may enjoy their beauty too. Also, pick no other plant parts.

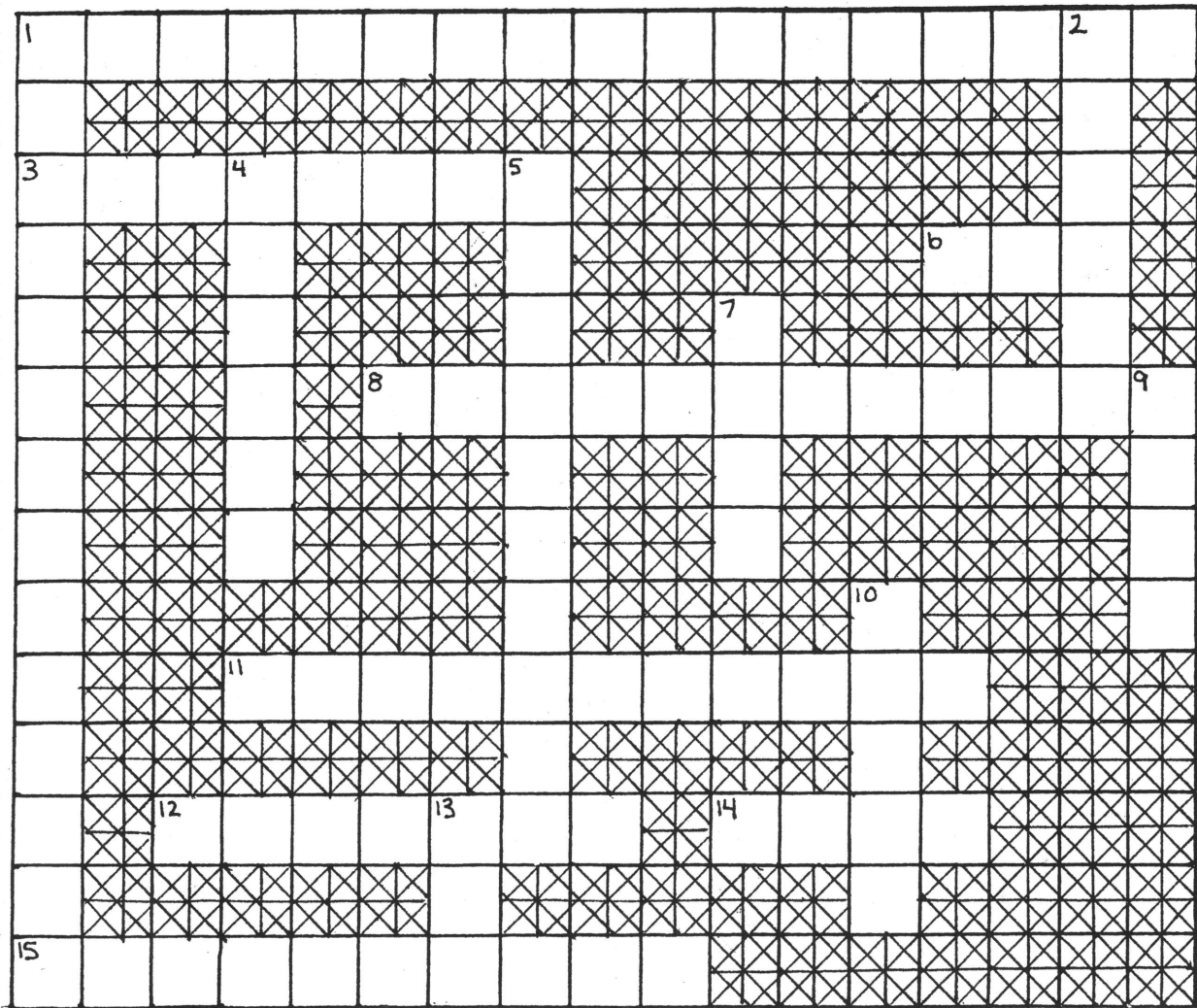
Tread Lightly - stay on trails and in designated study areas. Avoid stepping on plants.

Respect all living things. Do not disturb wildlife or their homes.

Take only memories. Leave only footprints. Do not collect anything except litter.



VOLO BOG: A WATERLOGGED WORLD!



Across

1. The process of one plant community replacing another.
3. Pine that loses all its needles each fall.
6. A wetland with floating, acidic soils.
8. Carnivorous plant that eats small animals.
11. Don't touch this plant!
12. This ice sheet covered our area of Illinois.
14. Sphagnum _____ grows in several of the bog zones.
15. _____ species may become extinct if they are not protected.

Down

1. An area protected by law.
2. _____ is needed by most living things including bacteria.
4. The bog plants make the water _____.
5. When the ice block melted it made a giant hole called a _____.
7. A soil formed by dead plants is _____.
9. Rock, sand and gravel is called _____.
10. This zone is closest to the edge of the old glacial lake.
13. The glacier was made of _____.